AMENDMENTS TO THE CLAIMS

1. (previously presented): A closed-loop focal positioning system, said system comprising:

a focusing assembly for focusing a laser beam to a focal depth position,

a feedback positioning device for determining the position of said focusing assembly; and

a computer processor interconnected to said feedback positioning device, said processor adapted for instructing movement of said focusing assembly and adapted for receiving a position of said focusing assembly from said feedback positioning device;

wherein said feedback positioning device is adapted to read the linear movement of the focusing assembly and said processor is adapted for determining based on the linear movement of said focusing assembly whether said focal depth position is within a predetermined range.

2. (original): The system of claim 1, wherein the feedback positioning device is one of the group selected from a linear encoder, a rotary encoder, an interferometric encoder, an optical encoder, a resolver, a Heidenheim scale, angular encoders, digital length gauge systems, phase device, magnetic strip reader, and transducer.

3. (original): The system of claim 1, wherein the focusing assembly is a movable zoom lens.

4. (original): The system of claim 1, further comprising a digital/analog converter for translating electronic signals from said computer processor to an analog voltage source for powering said moveable focusing assembly.

5. (original): The system of claim 1 further comprising a laser source for generating a laser beam to be directed through said moveable focusing assembly.

6. (original): The system of claim 1, further comprising a visual display for providing a visual warning to an operator.

7. (original): The system of claim 1, further comprising an audio device for providing an audible warning to an operator.

8. (previously presented): A closed-loop focal positioning system, said system comprising:

a laser source for generating a laser beam,

a movable focusing assembly for focusing said laser beam to a focal depth position,

a feedback positioning device for determining a position of said focusing assembly; and

a computer processor interconnected to said feedback positioning device, said processor adapted for instructing movement of said movable focusing assembly and for receiving the position of said focusing assembly from said feedback positioning device;

wherein said feedback positioning device is adapted to read the linear movement of the focusing assembly and said processor is adapted for determining based on the linear

movement of said focusing assembly whether said focal depth position is within a predetermined range.

9. (original): The system of claim 8, further comprising a digital/analog converter for translating electronic signals from said computer processor to an analog voltage source for powering said moveable focusing assembly.

10. (original): The system of claim 8, further comprising a visual display for providing a visual warning to an operator.

11. (original): The system of claim 8, further comprising an audio device for providing an audible warning to an operator.

12. (original): The system of claim 8, wherein the feedback positioning device is one of the group selected from a linear encoder, a rotary encoder, an interferometric encoder, an optical encoder, a resolver, a Heidenheim scale, angular encoders, digital length gauge systems, phase device, magnetic strip reader, and transducer.

13. (original): The system of claim 8, wherein the movable focusing assembly is a movable zoom lens.

14. (currently amended): A closed-loop focal positioning system, said system comprising:

a laser source for generating a laser beam;

a galvo-motorized focusing assembly for focusing said laser beam to a focal depth position;

a linear encoder for determining the position of said focusing assembly; and

a computer processor interconnected to said linear encoder, said processor adapted for instructing movement of said movable focusing assembly and for receiving position of focusing assembly from said linear encoder;

wherein said [feedback positioning device] linear encoder is adapted to read the linear movement of the focusing assembly and said processor is adapted for determining based on the linear movement of said focusing assembly whether said focal depth position is within a predetermined range.

15. (previously presented): A closed-loop focal positioning system, said system comprising:

a laser source for generating a laser beam;

a galvo-motorized focusing assembly for focusing said laser beam;

a linear encoder for determining the position of said focusing assembly; and

a computer processor interconnected to said linear encoder, said processor adapted for instructing movement of said movable focusing assembly and for receiving position of focusing assembly from said linear encoder;

wherein the laser source is an infrared, ultrashort pulse laser.

16. (previously presented): A method of positioning a focusing assembly for focusing a laser, said method comprising:

moving a focusing assembly to a desired position based on a first value;

determining a second value for the actual linear movement of said focusing assembly; and

comparing said first value to second value; and

correlating the movement of the focusing assembly to a focal depth.

17. (original): The method of claim 16, wherein the step of moving a focusing assembly to a desired position based on a first value comprises:

receiving by a software program a desired focal depth for a laser beam;

converting the focal depth value to a position based value; and

directing said focusing assembly to move to said position based value.

18. (original): The method of claim 16, wherein the step of determining a second value for the actual linear movement of said focusing assembly comprises:

utilizing a feedback positioning device to read an actual position of the focusing assembly.

19. (original): The method of claim 16, wherein the step of comparing said first value to second value comprises:

determining the difference between the first value and the second value; and

if said difference falls outside of an acceptable range, then providing an indicia of such.

20. (original): The method of claim 19 further comprising the step of preventing activation of said laser beam if said difference between the first value and the second value fall outside of an acceptable range.

21. (original): The method of claim 16, further comprising the step of generating a current to a motor for movement of said focusing assembly.

22. (original): The method of claim 16 further comprising the step of providing an audible and/or visual warning that the difference between the first value and the second value fall outside of an acceptable range.

23. (original): A method of positioning a focusing assembly for focusing a laser, said method comprising:

identifying a desired laser focal depth value for photodisruption or ablation of an eye structure;

generating a current to a motorized focusing assembly for positioning said focusing assembly to said desired laser focal depth value;

determining an actual linear movement value of said focusing assembly;

calculating a difference between said desired laser focal depth value and said actual linear movement value; and

providing an audible and/or visual warning if that said difference falls outside of an acceptable range.

24. (original): The method of claim 23 further comprising the step of preventing laser activation if said difference falls outside of said acceptable range.

25. (previously presented): A computer-usable medium having computer-readable program code embodied therein for causing a computer to perform the steps of:

instructing a focusing assembly to a desired position based on a first value;

determining a second value for the actual linear movement of said focusing assembly;

comparing said first value to second value; and

correlating the movement of the focusing assembly to a focal depth.

26. (original): The computer-usable medium of claim 25, wherein said computer-readable program code embodied therein causes a computer to further perform the step of:

determining a difference between the first value and the second value; and

if said difference falls outside of an acceptable range, then providing an indicia of such.

27. (original): The computer-usable medium of claim 26, wherein said computer-readable program code embodied therein causes a computer to further perform the step of:

providing an audible and/or visual warning that said difference between the first value and the second value fall outside of an acceptable range.

28. (original): The computer-usable medium of claim 25, wherein said computer-readable program code embodied therein causes a computer to further perform the step of:

directing the generation of a current to a motor for movement of said focusing assembly.

29. (previously presented): The closed-loop system of claim 1, wherein the laser source is an infrared, ultrashort pulse laser.

30. (previously presented): The closed-loop system of claim 14, wherein the laser source is an infrared, ultrashort pulse laser.